



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,811	12/26/2001	Quoc-Luan Allen Tran	P110501	5989
22839	7590	02/09/2005	EXAMINER	
RICHES, MCKENZIE & HERBERT, LLP SUITE 1800 2 BLOOR STREET EAST TORONTO, ON M4W 3J5 CANADA			NGUYEN, VAN H	
			ART UNIT	PAPER NUMBER
			2126	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/025,811

Applicant(s)

TRAN ET AL.

Examiner

VAN H NGUYEN

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to the application filed on December 26<sup>th</sup>, 2001.
2. Claims 1-23 are currently presented in this application. Claims 1, 11, and 18 are independent claims.

#### *Specification*

3. The abstract of the disclosure is objected to because it **exceeds the limit of 150 words**.  
Correction is required. See MPEP § 608.01(b).

#### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following terms lack antecedent basis:

- (i) “the task starters” (claim 1, the last line)
- (ii) “the task” (claim 11, line 3 and claim 18, line 3)

Art Unit: 2126

- (iii) “the resource manager” (claim 22, lines 2-3)

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 11-16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by **Pulsipher et al.** (Pub. No.:US 2003/012078 A1).

8. **As to claim 18:**

- a. Pulsipher teaches the invention as claimed including a system (100; fig. 1) for executing parallel jobs (*e.g., the jobs are caused to be executed in parallel; see the abstract and para. 0069*), each parallel job comprising multiple tasks being executed in parallel (*e.g., the tasks included in each respective job are collectively executed in parallel; see the abstract*) by separate resources (*e.g., the tasks are executed in one or more servers; see the abstract*) to produce an exit status for the task (*e.g., exits with a successful termination status; para. 0096*), said system comprising:

Art Unit: 2126

- b. a resource manager (*e.g., a distributed resource management application 106; fig. 1 and para. 0114*) for receiving the jobs (*e.g., tasks 1-4 of a first job and tasks 110 of a second job are submitted to a distributed resource management application 106; para. 0114*) and selecting resources (*e.g., schedules and manages work to be run on the multiple processors of the server farm; para. 0033 and 0114 and 0119*) to execute the multiple tasks of the job;
- c. a task starter associated with each task (*e.g., task server 806; para. 0186*), each task starter commencing (*e.g., execute the task command; para. 0186*), on an associated resource (*e.g., a processor on a server farm 108; para. 0175*), the tasks sent from the resource manager (*e.g., distributed resource management application 106 submits jobs to server farm 108; fig. 1 and para. 0028 and 0187*), collecting a process identifier from the associated resource, and sending the process identifier of the task to the resource manager (*e.g., essentially requesting the application 106 find a processor on a server farm 108 on which to execute the task command... The command passed to the management application 106 requests submission of a task server 806... Each task server 806 consists of the same \_exectasks command, along with a job ID; para. 0186*).

9. **As to claim 11:**

The rejection of claim 18 above is incorporated herein in full. Additionally, Pulsipher further teaches sending the process identifier to an external event unit (*fig.1 shows work control & management layer 104 associates with distributed resource management*

*application 106 and receives information (i.e., the process identifier) from task server 806).*

**10. As to claim 12:**

Pulsipher teaches prior to dispatching the task, generating a command instruction corresponding to each task said command instruction including the task starter (para.0090), and storing at least a portion of the command instruction in the resource manager (para.0092); sending the portion of the command instruction with the process identifier from each task starter to the external event unit (para.0186); correlating the command instructions stored in the resource manager with the process identifier and the portion of the command instruction (para.0187).

**11. As to claim 13:**

Pulsipher teaches the command instructions include instructions for the task starters to send the process identifiers of the tasks to a location associated with the resource manager (para.0182); and wherein the task starters send the process identifiers of the tasks to the location identified by the command instructions upon commencement of the execution of the task (para.0186).

**12. As to claim 14:**

Pulsipher teaches the command instructions include instructions for the task starters to send the exit status (para.0096) of the tasks to a location associated with the resource manager; and wherein each task starter sends the exit status of the task with the process identifier or the portion of the command instruction, or both, to the location identified by the command instructions upon completion of the execution of the task (para.0098).

Art Unit: 2126

13. **As to claim 15:**

Pulsipher teaches prior to dispatching the task, storing an action to be performed upon receipt by the external event unit of the exit status of a task (para.0096), said action being associated with the command instruction; and upon receipt of the exit status of the task, identifying the action associated with the command instruction of the exit status of the task, and executing the action on the exit status of the task (e.g., completed, warning, or error; para.0098).

14. **As to claim 16:**

Pulsipher teaches the task starters collect from the resources information regarding resource usage of the task and the task starter sends the information regarding resource usage of the task with the process identifier to the resource manager (para.0186).

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2126

16. Claims 1-10, 17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Pulsipher et al.** in view of **Applicant Admitted Prior Art (APA)**.

17. **As to claim 1:**

- a. The rejection of claim 18 above is incorporated herein in full. Additionally, Pulsipher further teaches an external event unit, associated with the resource manager, for receiving the process identifier of the tasks from the task starters (*fig.1 shows work control & management layer 104 associates with distributed resource management application 106 and receives information (i.e., the process identifier) from task servers 806*).
- b. Pulsipher does not specifically teach the use of a job launcher unit.
- c. APA teaches the use of a job launcher unit (*e.g., vendor parallel job launcher 18, fig. 2*).
- d. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of APA with Pulsipher because APA's teachings would have the capability for allocating and dispatching tasks to resources and facilitating high-speed communication between resources.

18. **As to claim 2:**

Pulsipher teaches a coordinating unit (e.g., 102; fig. 1), associated with the resource manager, for inserting said task starters in a command instruction associated with the task, each command instruction corresponding to a task and at least a portion of the command instruction being stored in the resource manager (para.0030); and wherein the



Art Unit: 2126

task starters return the portion of the command instruction of the task with the process identifier (para.0186).

19. **As to claim 3:**

Pulsipher teaches the coordinating unit inserts in the command instruction location information for the task starters to send the process identifier (para.0186) and an exit status of the tasks (para.0096) to the resource manager.

20. **As to claim 4:**

Pulsipher teaches the location information comprises port and host information of the resource manager (para.0110).

21. **As to claim 5:**

Pulsipher teaches the command instructions comprise a host identifier for identifying a host containing the resource to execute the task, and, wherein the portion of the command instruction of the task includes the host identifier (para.0095).

22. **As to claim 6:**

Note the discussion of claim 1 above regarding the use of a job launcher unit.

23. **As to claim 7:**

Pulsipher teaches once a task has been completed on the associated resource, the task starter collects the exit status of the task from the associated resource (para.0096) and sends the exit status of the task to the resource manager together with the process identifier and host identifier (para.0098).

24. **As to claim 8:**

Art Unit: 2126

Pulsipher teaches the external event unit performs a commencement action upon receipt of the process identifier from a task starter (para.0186), said commencement action including mapping the process identifier with the portion of the command instruction stored in the resource manager, and storing the process identifier in the resource manager (para.0187).

25. **As to claim 9:**

Pulsipher teaches once a task has been completed on the associated resource, the task starter collects the exit status of the task from the associated resource (para.0096) and sends the exit status of the task to the resource manager together with the process identifier (para.0098); and wherein the external event unit performs a task exit action upon receipt of the task exit action having been predetermined by the coordinating unit (para.0098).

26. **As to claim 10:**

Pulsipher teaches the coordinating unit stores the commencement actions and completion actions in the resource manager prior to the task being dispatched, said actions being associated with said command instruction for the task (see fig. 2 and the associated text).

27. **As to claim 23:**

Pulsipher teaches once a task has been completed on an associated resource, the task starter collects resource usage information of the task from the resource and sends the resource usage information to the resource manager together with the process identifier(para.0186).

18. **As to claim 17:**

Art Unit: 2126

Pulsipher teaches the command instructions comprise a host identifier for identifying the host containing the resource to execute the task (para.0195). Note the discussion of claim1 above regarding the use of a job launcher unit.

19. **As to claim 19:**

Note the discussion of claim 1 above regarding the use of a job launcher unit.

20. **As to claim 20:**

Pulsipher teaches a coordinating unit (e.g., 102; fig. 1), associated with the resource manager, for inserting in a command instruction for each task the task starters associated with the task and each command instruction corresponding to a task (para.0030).

21. **As to claim 21:**

Pulsipher teaches an external event unit (e.g., 104; fig. 1), associated with the resource manager for receiving the process identifier and exit status (para. 0096) of the task from the task starter; wherein the external event unit performs a commencement action upon receipt of the process identifier from a task starter, and, a task exit action upon receipt of an exit status of the task; and wherein the task commencement action and task exit action are predetermined by the coordinating unit (para. 0098).

22. **As to claim 22:**

Pulsipher teaches the task starters send resource usage information to the resource managers at completion of the task (para. 0037).

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iida et al. (U.S. 6636884) teaches "Method and system for controlling parallel execution of jobs."

Konno et al. (U.S. 5752030) teaches "Program execution control in parallel processor system for parallel execution of plural jobs by selected number of processors."

Andoh (U.S. 5594901) teaches "Control system for parallel execution of job steps in computer system."

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.
25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756.
26. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2126

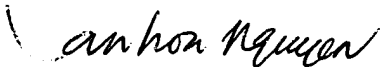
27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner for patents

P O Box 1450

Alexandria, VA 22313-1450



Van H. Nguyen